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CA

Mechanism of formation of technical calcium carbide P. V. Gel'd and F. S. Maton. *Zhur. Priklad. Khim.* (J. Applied Chem.) 22, 1160-72(1949); cf. C.A. 44, 420g.—Arguments are presented in support of the assumption that Ca metal vapor, formed by way of CaC_2 + 2CaO = 3Ca (gas) + 2CO, or CaO + C = Ca (gas) + CO, plays an important role in the process. (1) Compressed pellets of CaO + C (graphite), heated 1 hr. under a reduced pressure of ~ 2 mm. Hg, showed a loss of CaO increasing with the temp., and attaining 400 mg./g. at 1900°; the condensate consisted of CaO and C, obviously reformed from Ca and CO in the cooler parts of the app. On heating a stoichiometric mixt. of CaO and C (graphite), topped by a layer of distinctly coarser graphite, the upper layer was found to contain CaO and CaC_2, the presence of which, because of the impossibility of an evapn. of CaO, can only be accounted for by an evapn. of Ca, the more so as, in the presence of added SiO_2 and Al_2O_3, significant to massive amts. of CaO and CaC_2 are found in the upper layer at temps. as low as 1300-1500°. Owing to the reaction CaC_2 + 2CaO = 3Ca (gas) + 2CO, heating of tech. carbide results, through volatilization of Ca, in a marked enrichment of the residue in CaC_2; thus, in 1 hr. at 1700°, in A, the CaC_2 content rose from 57.8 to 81.5%, and at 1910°, in CO, from 52.3 to 61.7%.

The high dispersity of the carbide dust from the furnace also indicates its secondary formation from gaseous Ca and CO. The conclusion is that, along with the reaction between condensed phases, carbide is also largely formed through Ca (gas) + 2C = CaC_2 (2). For the reaction between solid CaO and the melt, consisting of cations Ca^{++} and anions O^{--} and C_2^{--}, the abnormally high soly. product of CaO in CaC_2, 0.88-0.93 at 2400°, as against 0.63-0.77 in other binary systems (with MgO, ZrO, BeO, CaF_2, Al_2O_3, SiO_2, FeO), indicates the complex structure of the anions formed; the melt around particles of solid CaO, becomes enriched in O^{--} ions. Conversely, reactions between the melt and solid C, consist mainly in a reaction with the O^{--} ions resulting, at lower temps., merely in adsorption of O^{--} and its insertion between the graphite planes, but at higher temps. in deep oxidation of the graphite, along C + 3mO = C_2^{--} + 3mCO. Within the melt, the reaction (C_2^{--}) + mCa^{++} = mCa + 2C is much more probable than a similar reaction between Ca^{++} and O^{--} (3). At the temp. of the carbide process, ~1900°, Ca vapor and CO can coexist in equil. With graphite, Ca reacts in analogy with K, only more deeply, owing to the double charge of

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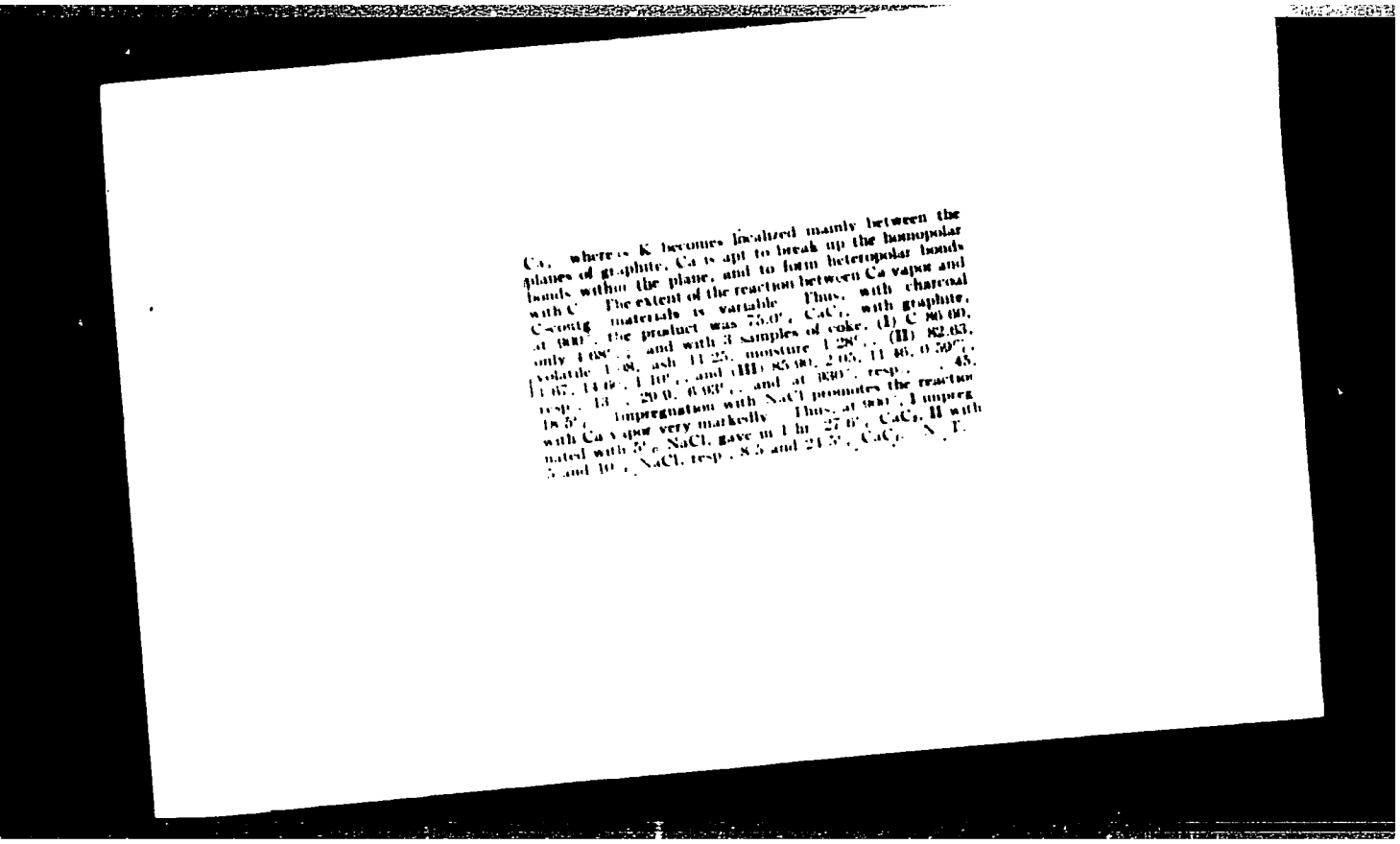

Ca, where K becomes localized mainly between the planes of graphite. Ca is apt to break up the homopolar bonds within the plane, and to form heteropolar bonds with C. The extent of the reaction between Ca vapor and C-containg materials is variable. Thus, with graphite, at 800°, the product was 75.0% CaC_2; with charcoal only 1.0%; and with 3 samples of coke, (I) C 80.00, volatile 1.08, ash 11.25, moisture 1.28%; (II) 82.83, 1.07, 14.06, 1.10%; and (III) 85.00, 2.05, 11.46, 0.50%, resp. At 850°, resp., 45, 18.5%. Impregnation with NaCl promotes the reaction with Ca vapor very markedly. Thus, at 800°, I impregnated with 5% NaCl gave in 1 hr. 27.0% CaC_2, II with 5% NaCl, resp., 8.5 and 21.5%; CaC_2 N. T. 5 and 10%, NaCl, resp., 8.5 and 21.5%, CaC_2 N. T.

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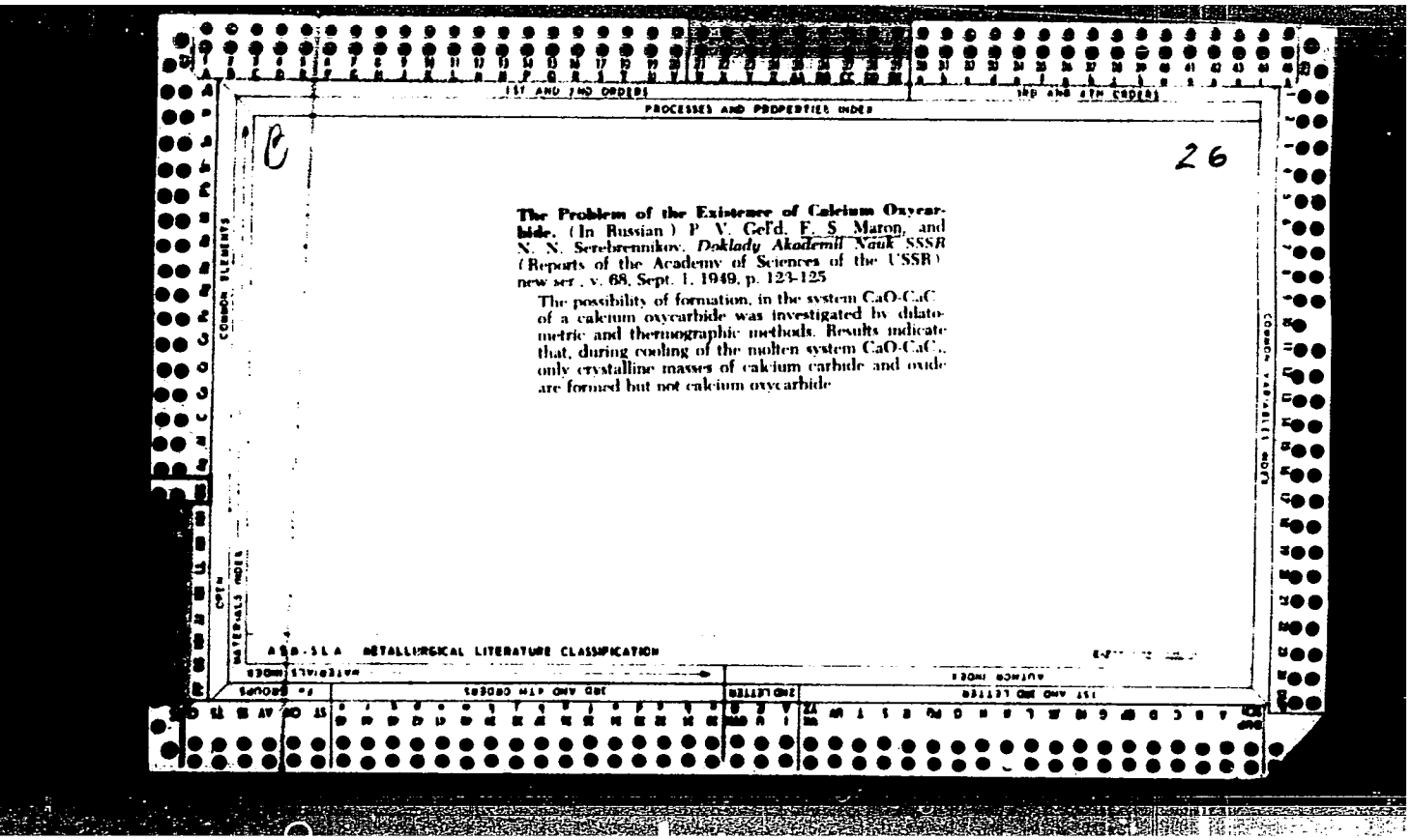

1ST AND 2ND ORDERS

3RD AND 4TH ORDERS

PROCESSES AND PROPERTIES INDEX

C

26

The Problem of the Existence of Calcium Oxycarbide. (In Russian.) P. V. Gel'd, F. S. Maron, and N. N. Serebrennikov. *Doklady Akademii Nauk SSSR* (Reports of the Academy of Sciences of the USSR) new ser., v. 68, Sept. 1, 1949, p. 123-125

The possibility of formation, in the system CaO-CaC of a calcium oxycarbide was investigated by dilatometric and thermographic methods. Results indicate that, during cooling of the molten system CaO-CaC, only crystalline masses of calcium carbide and oxide are formed but not calcium oxycarbide

A53-51A METALLURGICAL LITERATURE CLASSIFICATION

COMMON ELEMENTS

MATERIALS INDEX

AUTHOR INDEX

1ST AND 2ND LETTER

2ND LETTER

3RD AND 4TH ORDERS

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"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032520018-9

Maron, FS.

USSR/Chemical Technology. Chemical Products and Their Application. J-6
Mineral Salts. Oxides, Acids, Bases.

Abs Jour: Referat Zh.-Kh., No 8, 1957, 27433

Author : F.S. Maron, P.V. Gel'd
Inst : Uralsk Scientific Research Institute of Chemistry
Title : Influence of Alumina on Process of Calcium Carbide Formation

Orig Pub: Tr. Ural'skogo n.-i. khim. in-ta, 1954, vyp. 2, 156-165.

Abstract: The study was carried out in an airtight furnace by continual weighing of the charge. The initial substances were as follows: lime of the composition of (in %%) CaO - 98, R_2O_3 - 0.7, SiO_2 - 0.2; graphite containing 0.2% of ashes and Al_2O_3 of the Kh.Ch. (chemically pure) brand. It was found that the introduction of up to 5% of Al_2O_3 into the charge lowered the temperature of the reaction of CaC_2 formation and intensified the reaction. The dependence of the percent content of CaC_2 in the product on the temperature of the system containing 3 and 5% of Al_2O_3 is des-

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"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032520018-9

USSR/Chemical Technology. Chemical Products and Their Application. J-6
Mineral Salts. Oxides, Acids, Bases.

Abs Jour: Referat Zh.-Kh., No 8, 1957, 27433

cribed by a curve with a maximum. A considerable part of Al_2O_3 together with CaO is reduced to metallic state and sublimated. The intensity of this process rises with the rise in temperature. Bibliography with 13 titles.

Card : 2/2

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"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032520018-9

MAROK, F.S.; VOLGIN, B.P.

New sampling method for sulfur dioxide. Zav. lab. 22 no.9:1039-1040 '56. (MLRA 9:12)

1. Ural'skiy nauchno-issledovatel'skiy khimicheskiy institut.
(Sulfur dioxide)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032520018-9"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032520018-9

SOV/137-58-8-16745

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 8, p 74 (USSR)

AUTHORS: Maron, F.S., Uspenskaya, Z.P.

TITLE: Producing a Eutectic Potassium-sodium Alloy (Polucheniye kaliy-natriyevogo splava evtekticheskogo sostava)

PERIODICAL: Tr. Ural'skogo n.-i. khim. in-ta, 1957 (1958), Nr 5, pp 91-98

ABSTRACT: An investigation was made of a method of producing a eutectic K-Na alloy without organic additions (paraffin, kerosene, oil), and containers for storage and transport are designed. The process is conducted in airtight equipment consisting of a retort 180 mm high, 75 mm in diameter and 2 mm in wall thickness. Before the experiment, pieces of Na and K were freed of kerosene and oil by filter-paper pressure. The surface film of oxide was then cut away, and samples calculated to contain 22 weight % Na and 78 weight % K were then prepared in a dry, closed box. The K was placed on the bottom of the retorts, and the Na atop the piece of K. Then a vacuum (residual pressure 0.05 mm Hg) was created in the retort and the receiver. The metal was heated to 70-80°C, stirred, and poured

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Producing a Eutectic Potassium-sodium Alloy

into the receiver after cooling to room temperature. To separate the films from the alloy, the metal was filtered through an Fe screen with ~1-mm mesh, the screen being pulled over a tripod installed in the retort. The K and Na were placed on the screen. With heating the metal melted and flowed onto the bottom. The resultant alloy cast to a mirror-smooth surface. Airtight containers were developed and tested for the production, storage, and transportation of the K-Na alloy.

G.S.

1. Potassium-sodium alloys—Production

Card 2/2

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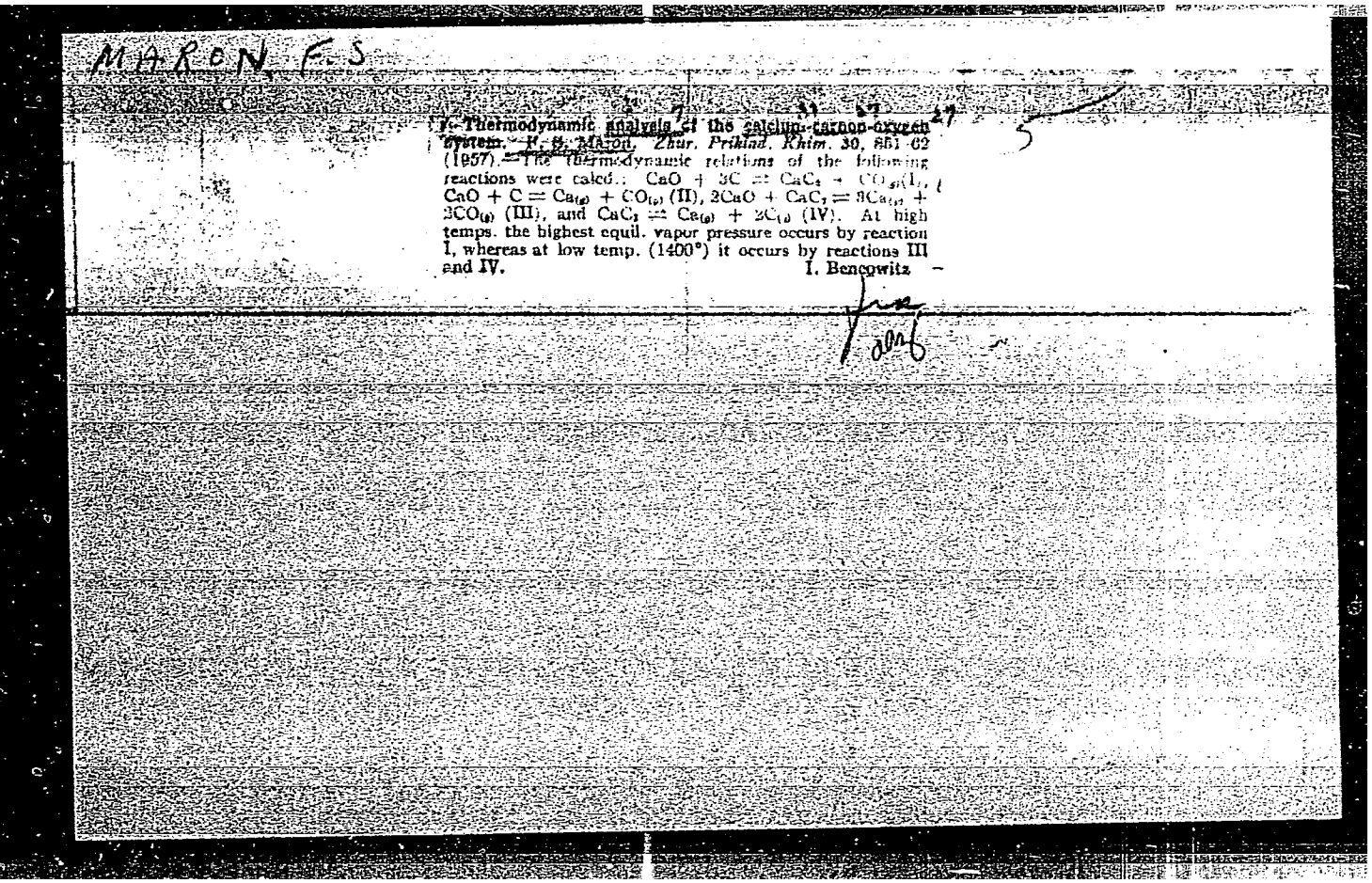

MARON, F. S.

Thermodynamic analysis of the calcium-carbon-oxygen system. F. S. Maron. *Zhur. Prikład. Khim.* 30, 861-62 (1957).—The thermodynamic relations of the following reactions were calcd.: $CaO + 3C = CaC_2 + CO_{(g)}$ (I), $CaO + C = Ca_{(g)} + CO_{(g)}$ (II), $3CaO + CaC_2 = 3Ca_{(g)} + 3CO_{(g)}$ (III), and $CaC_2 = Ca_{(g)} + 2C_{(s)}$ (IV). At high temps. the highest equil. vapor pressure occurs by reaction I, whereas at low temp. (1400°) it occurs by reactions III and IV.

I. Benegwitz

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SOV/81-59-14-48955

Translation from: Referativnyy zhurnal, Khimiya, 1959, Nr 14, pp 83 - 84 (USSR)

AUTHORS: Mikulinskiy, A.S., Maron, F.S.

TITLE: The Production of Compact Magnesium by the Vacuum-Thermal Method With the Production of Liquid Slags

PERIODICAL: Tr. Ural'skogo n.-i. khim. in-ta, 1958, Nr 7, pp 238-241

ABSTRACT: The authors studied the possibility of producing compact Mg metal from fragmentary materials by the silicothermal method with the formation of liquid slags. Comparative experiments on fragmentary and briquetted charges showed a slightly decreased yield of Mg metal for the fragmentary charge. It is assumed that the first stage of the process is the dissolution of MgO in liquid slag and the second the reduction of the dissolved MgO by ferrosilicon. The particle sizes affect the rate of the first stage, which is not limiting. The optimum conditions are a residual pressure equal to 0.5 - 2 mm Hg and a temperature of 1,520°C. In this case the Mg yield on working with a fragmentary charge amounted to 70 - 85%.

Card 1/1

I. Denisova

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"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032520018-9

S/080/60/033/04/14/045

AUTHORS: Mikulinskiy, A.S., Maron, F.S.

TITLE: The Production of Calcium by the Dissociation of Calcium Carbide

PERIODICAL: Zhurnal prikladnoy khimii, 1960, Vol 33, Nr 4, pp 835 - 841

TEXT: The possibility of obtaining calcium metal by the dissociation of calcium carbide according to the reaction: $CaC_2 \rightleftarrows Ca_{vap} + 2C_{graphite}$ was investigated. Calcium oxide, which is contained in commercial calcium carbide in the amount of 30%, can interact with carbon or carbide according to the reactions: $CaO + C \rightleftarrows Ca + CO$, $2CaO + CaC_2 \rightleftarrows 3Ca + 2\,CO$. The experiments were carried out with various types of commercial calcium carbide in an UMG-1 hermetic vacuum furnace. The absolute pressure was 0.5 - 1 mm Hg. Calcium metal was deposited in the form of a compact ring on the inner surface of the condenser. Calcium obtained from 83%-calcium carbide contained (%) 94.8 - 98.2 Ca, 0.0085 Fe, 0.009 Si, 0.012 Mg. After the reaction graphite with a carbon content of 94 - 98.5% remained in the residue. The optimum conditions of the reaction are a temperature of 1,770°C for 1 - 1.5 hours. The graphite obtained is considerably softer than pressed artificial graphite. Its ash content varies from 0.346 to 5.1%. For 1 t of calcium metal 2.7 t of 80%-CaC_2 is needed at a calcium yield of

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"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032520018-9

The Production of Calcium by the Dissociation of Calcium Carbide

75%. At the same time 0.7 t of graphite with a carbon content of 90 - 97% is obtained. The consumption of electric energy is 4,470 kw-h per 1 ton Ca. In the case of an efficiency factor of the furnace of 40%, the specific consumption is 11,850 kw-h/t. Experiments made in 1956 by B.A. Borok, M.I. Rodnoy, V.I. Gavrilin and B.P. Lobashov from TsNIIChERMET with a vacuum induction furnace of 50 kw have confirmed the possibility of obtaining calcium metal by the method mentioned.
There are: 3 tables, 1 diagram and 13 references, 9 of which are Soviet, 2 German, 1 American and 1 Swiss.

ASSOCIATION: Ural'skiy nauchno-issledovatel'skiy khimicheskiy institut (Ural Scientific Research Chemical Institut

SUBMITTED: September 2, 1959

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032520018-9"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032520018-9

S/137/62/000/003/040/191
A006/A101

AUTHORS: Mikulinskiy, A. S., Maron, F. S.

TITLE: Preparation of calcium by dissociation of calcium carbide

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 3, 1962, 18, abstract 30117 (V sb. "Fiz.-khim. osnovy proiz-va stali", Moscow, AN SSSR, 1961, 199 - 205)

TEXT: The authors analyzed the possibility of obtaining cheaper Ca by dissociation of CaC_2 at higher temperatures according to equation $CaC_2 \leftrightarrows Ca$ (steam) + 2C (graphite). It was established that by heating CaC_2 at 1,720 - 1,770°C and 0.5 - 1 mm Hg pressure, compact Ca metal can be obtained which contains 94.8 - 98.2% Ca and low-ash high-quality graphite (97% C). The yield of both products is 80 and 90% respectively. There are 12 references.

G. Svodtseva

[Abstracter's note: Complete translation]

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"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032520018-9

GALLO, Pavol; MARON, Frantisek; VADOVIC, Jarolim; DIDKA, Ernest

Single chamber washing machine for car wheel set cleaning.
Zel dop tech 11 no.11:340-341 '63.

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"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032520018-9

ACC NR: AP6035825 (A) SOURCE CODE: UR/0413/66/000/020/0032/0032

INVENTOR: Maron, F. S.; Germaidze, M. S.

ORG: none

TITLE: Method of synthesizing lithium boride. Class 12, No. 186993 [announced by the Ural Scientific Research Chemical Institute (Ural'skiy nauchno-issledovatel'skiy khimicheskiy institut)]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 20, 1966, 32

TOPIC TAGS: lithium compound, boride, chemical synthesis

ABSTRACT: This Author Certificate introduces a method of synthesizing lithium boride by thermal reduction of mixture of boric anhydride and a lithium compound with magnesium. To obtain a finely dispersed high-purity product, lithium fluoride is used as a compound and the reduction is carried out at approximately 450C.

SUB CODE: 07 / SUBM DATE: 03May65/

Card 1/1 UDC: 661.655:661.834

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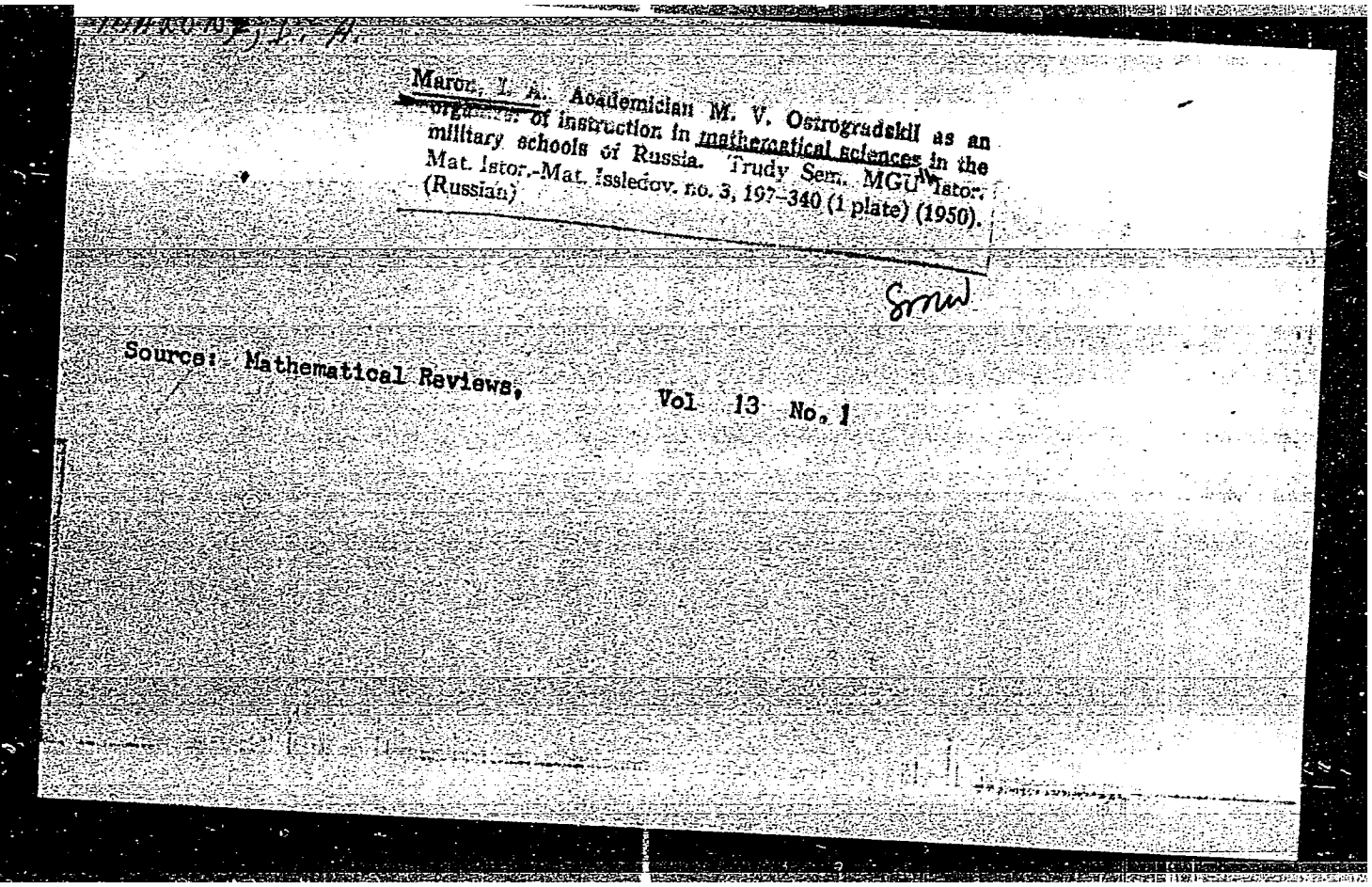

Maron, I. A. Academician M. V. Ostrogradskiĭ as an organizer of instruction in mathematical sciences in the military schools of Russia. Trudy Sem. MGU Istor.-Mat. Issledov. no. 3, 197–340 (1 plate) (1950). (Russian)

Source: Mathematical Reviews, Vol. 13 No. 1

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"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032520018-9

OSTROGRADSKIY, Mikhail Vasil'yevich; SMIRNOV, V.I., akademik, red.; GNEDENKO, B.V.; MARON, I.A., dotsent; ANTROPOVA, V.I., dotsent; POGREBYSSKIY, I.B., dotsent; POLYAKHOV, N.N., prof.; REMEZ, Ye.Ya., prof.; SMIRNOV, V.I., akademik; FIKHTENGOL'TS, G.M., prof.; TRAVIN, N.V., red.izd-va; PEVZNER, P.S., tekhn.red.

[Selected works] Izbrannye trudy. Red. V.I. Smirnova. Stat'ia B.V. Gnedenko i I.A. Marona. Primechaniia V.I. Antropovoi i dr. Izd-vo Akad.nauk SSSR, 1958. 583 p. (MIRA 11:12)

1. Deystvitel'nyy chlen AN Ukrainskoy SSR (for Gnedenko).
(Calculus) (Mathematical physics) (Mechanics)

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MARON I A

PHASE I BOOK EXPLOITATION SOV/5285

Demidovich, Boris Pavlovich, and Isaak Abramovich Maron

Osnovy vychislitel'noy matematiki (Principles of Computing Mathematics) Moscow, Fizmatgiz, 1960. 659 p. 25,000 copies printed.

Ed. (Title page): B. P. Demidovich. Ed.: G. I. Biryuk. Tech. Ed.: S. N. Akhlamov.

PURPOSE: This textbook is intended for use in university-level courses in approximate computation methods. It may also be useful to persons working in the field of applied mathematics.

COVERAGE: The book describes systematically the most important modern methods and procedures of computing mathematics. Material is based on a general course in higher mathematics given in schools of higher technical education. Questions that go beyond the scope of the usual college course are also treated, and are indicated in the table of contents by asterisks. For a full understanding of the book, basic information on linear algebra and the theory of linear vector spaces is required. The book discusses the following problems: operations with

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approximate numbers, calculation of values of functions with the aid of series and integration processes, approximate and numerical solution of algebraic and transcendental equations, calculation methods of linear algebra, interpolation of functions, numerical differentiation and integrations, and the Monte-Carlo method. Special consideration is given to convenient methods for estimating errors. For almost all processes, proofs of the convergence theorems are presented. The authors thank the collective of the Department of Higher Mathematics at the Artilleriyskaya inzhenernaya akademiya im. F.E. Dzerzhinskogo (Artillery Engineering Academy imeni F.E. Dzerzhinsky), as well as L.A. Lyusternik, G.P. Tolstov, N.P. Buslenko, E.Z. Shuvalova, D.M. Grobman, A.A. Yushkevich, Professor Kh. L. Smolitskiy, Docent S.V. Frolov, Docent R. Ya. Shostak, and the editor, G.I. Biryuk. There are 111 references: 110 Soviet (including 31 translations: 19 from English, 9 from German, 2 from Italian, 1 from French) and 1 German.

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"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032520018-9

DEMIDOVICH, Boris Pavlovich; MARON, Isaak Abramovich; SHUVALOVA, Emma Zinov'yeva; LEVITAN, B.M., prof., retsenzent; SMOLITSKIY, Kh.L., prof., retsenzent; BIRYUK, G.I., red.; AKHLAMOV, S.N., tekhn. red.

[Numerical methods of analysis; approximation of functions, differential equations] Chislennye metody analiza; priblizhenie funktsii, differentsial'nye uravneniia. Pod red. B.P. Demidovicha. Moskva, Gos. izd-vo fiziko-matem. lit-ry, 1962. 367 p. (MIRA 15:4)
(Functions) (Differential equations)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032520018-9"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032520018-9

DEMIDOVICH, Boris Pavlovich; MARON, Isaak Abramovich; SHUVALOVA, Emma Zinov'yevna; KUPTSOVA, A.N., red.; SHKLYAR, S.Ya., tekhn. red.

[Numerical methods of analysis; approximation of functions, differential and integral equations] Chislennye metody analiza; priblizhenie funktsii, differentsial'nye i integral'nye uravneniia. Izd.2., ispr. i dop. Moskva, Fizmatgiz, 1963. 400 p. (MIRA 16:10)

(Approximate computation) (Mathematical analysis)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032520018-9"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032520018-9

DEMIDOVICH, Boris Pavlovich; MARON, Isaak Abramovich; SHUVALOVA, Emma Zinov'yevna; KOPYLOVA, A.N., red.; SHKLYAR, S.Ya., tekhn. red.

[Numerical methods of analysis; approximation of functions; differential and integral equations] Chislennye metody analiza; priblizhenie funktsii, differentsial'nye i integral'nye uravneniia. Izd.2., ispr. i dop. Moskva, Fizmatgiz, 1963. 400 p. (MIRA 17:2)

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"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032520018-9

DEMIDOVICH, Boris Pavlovich; MARON, Isaak Abramovich; BIRYUK, G.I., red.; AKHLAMOV, S.N., tekhn. red.

[Principles of computer mathematics] Osnovy vychislitel'noi matematiki. 2. izd., ispr. Moskva, Fizmatgiz, 1963. 659 p. (MIRA 16:6)

(Electronic computers) (Mathematics)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032520018-9"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032520018-9

MARON, J.

Let us care for the hygiene of industrial surroundings and factories. [illegible]

(OCHRONA PRACY: MIESIĘCZNIK [illegible]. Vol. 12, No. 7, July 19[illegible]7.)
Warszawa, Poland

SO: Monthly List of East European Accessions (EEAL) LC. Vol. 6, No. 10, October [illegible]. Incl.

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"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032520018-9

MARON, Jerzy, mgr inz.

Experiences of the Baildon Metallurgical Works concerning the participation of the Association of Engineers and Technicians of the Metallurgical Industry in the activities of the workmen's councils. Przegl techn no.47:12 25 N '62.

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032520018-9"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032520018-9

MARON, Kazimiers

Regeneration in Pediculus humanus corporis. Folia biol 1 no.2: 83-85 '53. (KRAL 3:8)

1. Zaklad Biologii Akademii Medycznej w Krakowie i Instytut Badawczy nad Durem Plamistym prof. Weigla.

(REGENERATION,
*of Pediculus humanus corporis, regen. of extremities after amputation)
(PEDICULI,
*body lice, regen. of extremities after amputation)

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"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032520018-9

MARON, K.

JURAND, A.; MARON, K.; OLEKIEWICZ, M.; SKOWRON, S.

Effect of excision of the telencephalon on regeneration rate in the tail in Xenopus laevis tadpoles. Fol. biol., Warsz. 2 no.1:3-29 1954.

1. Zaklad Biologii AM, Zaklad Zoologii Doswiadczalnej PAN w Krakowie. Kierownik: prof. dr St. Skowron. Zaklad Statystyki Matematycznej UMCS w Lublinie. Kierownik: prof. dr M.Olekiewicz.

(MESENCEPHALON, physiology,
eff. of excisn. on regen. of Xenopus laevis tail)
(REGENERATION,
eff. of telencephalon excis. on regen. of Xenopus laevis tail)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032520018-9"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032520018-9

MARON K.

MARON, K.; OLEKIEWICZ, M.; SKOWRON, S.

Further studies on the effect of excision of the telencephalon on regeneration. Fol. biol., Warsz. 2 no.2:77-85 1954.

1. Zaklad Biologii AM. Zaklad Zoologii Doswiadczalnej PAN w Krakowie. Kierownik: prof. dr S.Skowron. Zaklad Statystyki Matemet. UMCS w Lublinie. Kierownik: prof. dr M.Olekiewicz.

(MESENCEPHALON, physiology,
eff. of excis. on regen. of tail in tadpoles)
(REGENERATION,
eff. of mesencephalon excis. on tail regen. in tadpoles)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032520018-9"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032520018-9

MARON, Kazimierz

Investigations on regeneration in Apterygota; general morphology of regeneration in Collembola. Fol. biol., Warsz. 2 no.3-4:185-187 1954.

1. Zaklad Biologii A.M., Zaklad Zoologii Doswiadczalnej PAN w Krakowie. Kierownik: prof. dr St.Skowron.

(REGENERATION,
in Collembola)
(INSECTS,
Collembola, regen. in)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032520018-9"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032520018-9

MARON, K; ROGUSKI, H; SKOWRON, S.

Effect of decerebration and on resection of the spinal cord on regeneration in Xenopus laevis embryos and tadpoles . Fol.biol. Warsz. 3 no.1:3-9 1955.

1. Zaklad Zoologii Doswiadczalnej Polskej Akademii nauk, Zaklad biologii A.M. Krakow; Kierownik: prof. Dr. St. Skowron
(BRAIN, physiology,
eff. of decerebration on regen. in Xenopus laevis embryo & tadpole)
(SPINAL CORD, physiology,
eff. of resect. on regen. in Xenopus laevis embryo & tadpole)
(REGENERATION, physiology,
eff. of decerebration & spinal cord resect. in Xenopus laevis embryo & tadpole)

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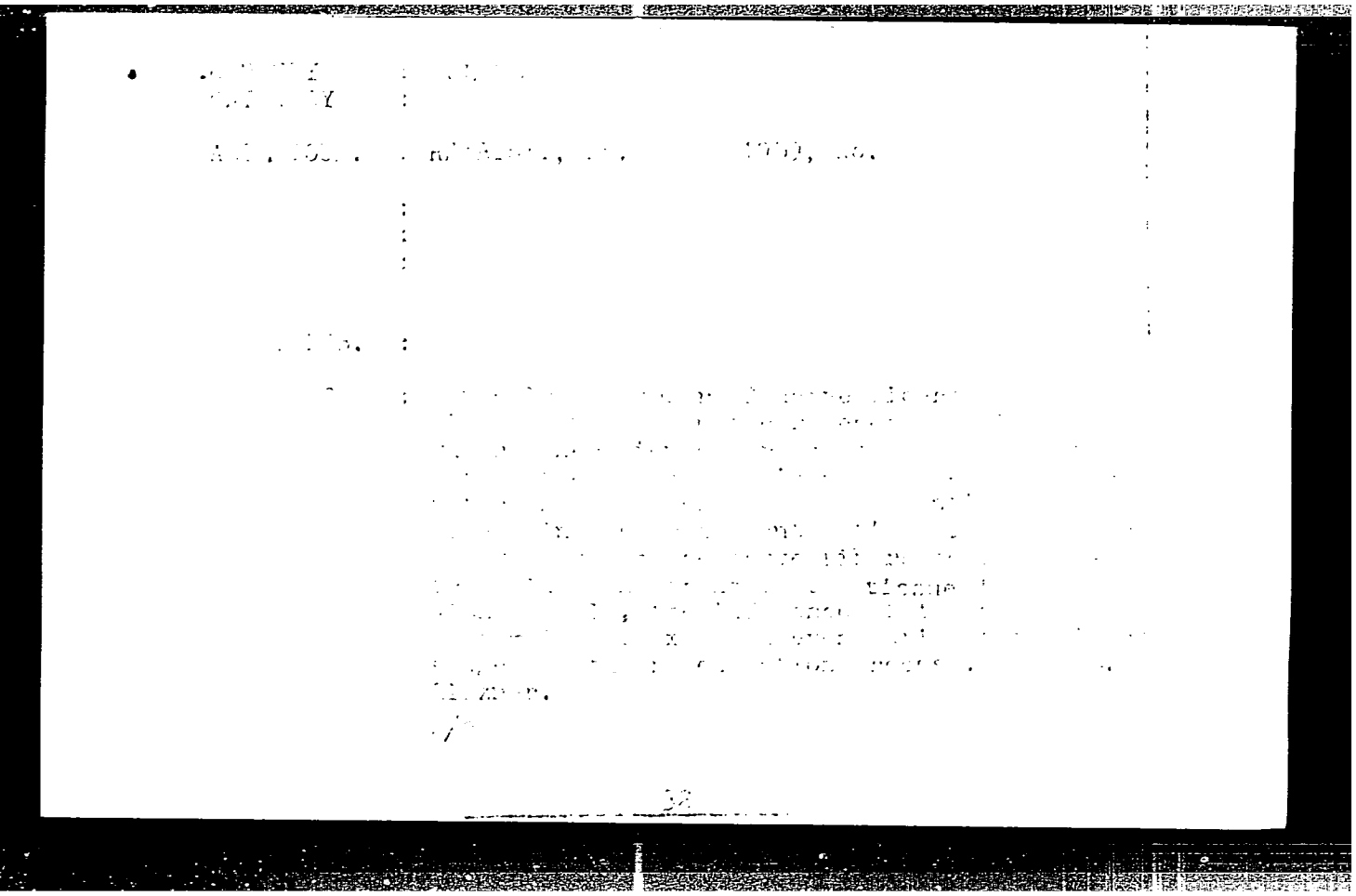
"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032520018-9

CATEGORY : [illegible] Biology.
Individual Development. Regeneration.
ABS. JOUR. : RZhBiol., No. 3, 1959, No. 9609

[illegible]

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032520018-9"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032520018-9



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"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032520018-9

MARON, Kazimierz

Regeneration capacity of the spinal cord in Lampetra fluviatilis larvae. Folia biol 7 no.3:179-189 '59. (EEAI 9:11)

1. Department of Experimental Zoology, Polish Academy of Sciences, Krakow.
(LAMPREYS)
(REGENERATION (BIOLOGY))
(SPINAL CORD)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032520018-9"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032520018-9

MARON, K.

Regeneration of the tail in Lampetra fluviatilis Larvae. Folia biol 8 no.1/2:55-57 '60. (EEAI 10:4)

1. Department of Experimental Zoology, Polish Academy of Sciences, Krakow; head; Prof. Dr. S.Skowron.
(LAMPREYS)
(REGENERATION (BIOLOGY))

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032520018-9"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032520018-9

MARON, K.

Endbrain regeneration in Lebistes reticulatus. Folia biol 11 no.1:3-10 '63.

1. Department of Experimental Zoology, Polish Academy of Sciences, Krakow. Head: S Skowron, Ph.D.

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032520018-9"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032520018-9

BORN, J.; KOCZKA, I.; MARON, S.

Bacteriostatic effect of quinoline derivatives on tubercle bacilli.
Orv.hetil. 91 no.28:878-879 9 July 50. (CLML 20:7)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032520018-9"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032520018-9

MARON, S.

"Mutual inductance between coils with top cores."

So. Radio, Vol. 4, p. 48, 1952

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032520018-9"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032520018-9

MARON, S.

"Measuring the inherent resistance of a part."

So. Radio, Vol. 9, p. 54, 1952

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032520018-9"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032520018-9

MARON, S. (Petropavlovsk Kazakhstanskiy).

Direct and alternating current voltmeter with a universal scale.
Radio no.2:40 F '54. (MLRA 7:2)
(Voltmeter)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032520018-9"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032520018-9

MARON, S., inzh. (Ryazan')

Measurement of small resistances. Radio no.2:46 F '65. (MIRA 18:4)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032520018-9"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032520018-9

MASLOVSKIY, P.M.; MARON, V.D.; TSYMBAL, V.P.

Continuous control of the carbon content in an open-hearth furnace bath. Izv.vys.ucheb.zav.; chern.met. 8 no.6:180-184 '65.
(MIRA 18:8)

1. Sibirskiy metallurgicheskiy institut.

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032520018-9"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032520018-9

MARON, V.D., kand. tekhn. nauk, dots.

Thermal conductivity of steel castings. Izv. vys. ucheb. zav.; chern. met. no.4:81-90 Ap '58. (MIRA 11:6)

1. Sibirskiy metallurgicheskiy institut.
(Steel castings) (Heat--Conduction)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032520018-9"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032520018-9

MARON, V.D., kand. tekhn. nauk; YELAGIN, S.Ye., inzh.

Pulse selection for the automatic control of thermal efficiency in open-hearth furnaces. Izv. vys. ucheb. zav.; chern. met. 2 no.3:115-126 Mr '59. (MIRA 12:7)

1.Sibirskiy metallurgicheskiy institut i Kuznetskiy metallurgicheskiy kombinat. Rekomendovano kafedroy metallurgicheskikh pechey Sibirskogo metallurgicheskogo instituta.
(Open-hearth furnaces)
(Heat--Radiation and absorption)
(Automatic control)

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"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032520018-9

MARON, V.I.

Forcing fluids through long pipelines. Izv. vys. ucheb. zav.; neft' i gaz 6 no.4:59-64 '63. (MIRA 16:7)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova.
(Pipelines—Fluid dynamics)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032520018-9"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032520018-9

S/055/63/000/001/004/008
D251/D308

AUTHORS: Maron, V. I. and Medvedev, V. A.

TITLE: On the derivation of energy equations of interpenetrating motions of gaseous media

PERIODICAL: Moscow. Universitet. Vestnik. Seriya I. Matematika, Mekhanika, no. 1, 1963, 43-45

TEXT: One of the possible methods of studying the motion of a mixture of gaseous media is to write down the equations of motion for each component separately, and then to introduce interaction forces. In order to obtain a closed system of equations, equations of the conservation of energy must be found. However, this method of procedure gives an energy equation which is insufficient to account for the effect of the other components. This article is devoted to the deduction of a closed system of equations which describe the motion by components of a binary mixture of perfect gases. The energy equation of the i-th component is

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On the derivation ...

$$\rho_i \frac{d}{dt}\left(e_i + \frac{1}{2} w_i^2\right) = -\operatorname{div} p_i \vec{w}_i + \operatorname{div}\left[(\vec{p}_{ix}\vec{w}_i)\vec{i} + (\vec{p}_{iy}\vec{w}_i)\vec{j} + (p_{iz}\vec{w}_i)k\right] + \operatorname{div}(\lambda_i \nabla T_i) + \alpha(T_j - T_i) + (\vec{F}_{ij}\vec{w}_i) + A_i.$$

$$A_i = \varkappa_i \vec{F}_{ij}(\vec{w}_j - \vec{w}_i); \quad \varkappa_1 + \varkappa_2 = 1, \quad 0 \leqslant \varkappa_i \leqslant 1; \quad i,j = 1,2, \quad i < j$$

where A_i is the i-th component's part of the interaction energy, $e_i = c_{vi}T_i$ is the internal energy of the i-th component, α is the coefficient of heat exchange

$$\vec{P}_{i(x,y,z)} = P_{i(x,y,z)}\vec{i} + P_{i)x,y,z)}\vec{j} + P_{i(x,y,z)}\vec{k}$$

Card 2/3

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On the derivation ...

where $P_{i(x,y,z)(x,y,z)}$ are the components of the viscous stress tensor for the i-th component. The equation of motion for the i-th component is

$$\rho_i \frac{d\vec{w}_i}{dt} = -\nabla P_i + \left[\vec{i}\ \mathrm{div}\ \vec{P}_{ix} + \vec{j}\ \mathrm{div}\ \vec{P}_{iy} + \vec{k}\ \mathrm{div}\ \vec{P}_{iz}\right] + \vec{F}_{ij},$$

$$i;\ j = 1,2;\quad i < j$$

and these equations, together with the equation of continuity, form a closed system, provided that F_{ij} are written in explicit form, and $\varkappa_i$ and α are given.

ASSOCIATION: Kafedra gazovoy i volnovoy dinamiki (Department of Gas and Wave Dynamics)

SUBMITTED: December 25, 1961

Card 3/3

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032520018-9"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032520018-9

MARCH, V.I. (Moskva)

Displacement of a viscous fluid owing to consideration the difference of viscosities and densities. Prik. mat. i mekh. 4 no.2: 337-342 '64. (MIRA 17:8)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032520018-9"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032520018-9

MARON, [illegible]

Steady-state laminar motion of viscous [illegible]
Izv. vys. zav., neft' i gaz 7 no.[illegible]:59-62 [illegible] [illegible]

1. Moskovskiy gosudarstvennyy universitet imeni [illegible].

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032520018-9"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032520018-9

MARON, Ye.

Samara metalworkers in the vanguard of revolutionary battles.
Sov. profsoiuzy 5 no.10:76-77 [illegible].
(Kuybyshev--Revolution, 1917-1921)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032520018-9"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032520018-9

DABROWSKA, Krystyna, mgr.; MARCWA, Rudolf, mgr.

Production of goods and labor productivity and wages. Rudy i metale 7 no.2:74-76 '62.

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032520018-9"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032520018-9

GRZEGORZEK, Henryk, mgr.inz.; MARONA, Rudolf, mgr; SOZANSKI, Jakub, mgr.inz.

Recent type of distillation furnaces for the production of raw zinc.
Rudy i metale 7 no.6:275-279 Je '62

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032520018-9"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032520018-9

MARONA, Rudolf, mgr.

Economic aspects of technological progress in the nonferrous metal industry. Rudy i metale 7 no.11:498-501 N'62.

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032520018-9"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032520018-9

MARONA, Rudolf, mgr.

The department economist in the nonferrous metal industry.
Rudy i metale 8 no.12:503-506 D'63.

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032520018-9"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032520018-9

MARONA, Rudolf, mgr

Some remarks on the factory workers' fund. Rudy i metale 9 no.10:575-577 O '64.

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032520018-9"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032520018-9

L 9209-66 EWT(1)/EWT(m)/T/EWP(b)/EWA(c)/ IJP(c) GG/JD

ACC NR: AR6000120 EWP(t) SOURCE CODE: UR/0058/65/000/008/E044/E044

58
B

SOURCE: Ref. zh. Fizika, Abs. 8E332

AUTHORS: Maronchuk, I. Ye.; Sidorov, Yu. G.
44,55 44,55

ORG: none 27,55

TITLE: On supersaturation in the growing of germanium layers by the open iodide method

CITED SOURCE: Sb. Vychisl. sistemy. Vyp. 15. Novosibirsk, 1965, 83-89

TOPIC TAGS: epitaxial growing, germanium, metal film, single crystal, metal crystallization, crystal lattice dislocation, crystal defect
44,55

TRANSLATION: The authors analyze the influence of the growth conditions on the perfection of epitaxial layers of germanium, grown on substrates of fused quartz and single-crystal germanium. The apparatus is described and the measurement procedure. A method is proposed for calculating the real composition of the vapor and its deviation from equilibrium along the crystallization zone (CZ). It is found that the relative supersaturation (S) increases along the CZ at constant temperature gradient, this being attributed to the sharp change in the degree of transformation in the same temperature region. The change in S in different places leads to the difference in the density of the dislocations of the grown layers. At large S at the end of the CZ there occurs a polycrystalline growth of the layers; at smaller S at the start of the CZ "jogs" are formed on a single-crystal substrate and capture the defect upon coalescence. L. Leshchuk.

SUB CODE: 20 (Crystal Growth)
21,44,55

Card 1/1

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032520018-9"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032520018-9

L 29889-66 EWT(m)/EWP(t)/ETI IJP(c) JD

ACC NR: AR6008639 SOURCE CODE: UR/0081/65/000/017/B045/B045

36
B

AUTHOR: Maronchuk, I. Ye.; Sidorov, Yu. G.

TITLE: Oversaturation in growing germanium layers, using the free iodine method

27 A

SOURCE: Ref. zh. Khimiya, Abs. 17B294

REF SOURCE: Sb. Vychisl. sistemy. Vyp. 15. Novosibirsk, 1965, 83-89

TOPIC TAGS: crystal, germanium single crystal, crystal growth

ABSTRACT: The effect of the growth conditions on the perfection of epitaxy Ge layers prepared on molted quartz and on single-crystal Ge is discussed. The equipment used and the method of calculation are described. A method of calculating the real composition of vapor and its derivation from the equilibrium along the crystallization zone is proposed. It was found that a relative oversaturation increases along the crystallization zone at a constant temperature gradient which is based on a sharp change in the degree of transformation in this range of temperatures. The change in supersaturation in various places leads to a variation of dislocation density in the grown layers. In the case of high oversaturation at the end of the crystallization zone a polycristalline growth of layers takes place. At low oversaturations at the beginning of the crystalization zone on a single-crystal base, "points" are formed which absorb defects during fusing. L. Leshchyuk.

SUB CODE: 20/ SUBM DATE: none

Card 1/1 CC

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032520018-9"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032520018-9

L 47319-66 EWT(m)/T/EWP(t)/ETI IJP(c) JD/WW/JG

ACC NR: AR6025 54 SOURCE CODE: UR/0058/66/000/004/A074/A075

AUTHOR: Maronchuk, I. Ye.; Sidorov, Yu. G.

TITLE: Growth of GaAs crystals in the gas phase

SOURCE: Ref. zh. Fizika, Abs. 4A625

REF SOURCE: Sb. Simpozium. Protsessy sinteza i rosta kristallov i plenok poluprovodnik. materialov, 1965. Tezisy dokl. Novosibirsk, 1965, 20

TOPIC TAGS: gallium arsenide, crystal growing, epitaxial growing, dendrite

ABSTRACT: The authors investigated the influence of the composition of the vapor phase on the growth rate and on the delineation of the GaAs crystals grown by the open iodide process. At values $(P_{GaI} + P_{GaI_2})/nP_{As_n} \geq 1$ and small supersaturations, the (111) face increases with minimum velocity, as a result of which there is formed a smooth mirror-like surface of grown epitaxial layers. An increase of the supersaturation leads to the formation of flexible dendrite ribbons with further developed (111) surface. At values K = 1 the relief of the epitaxial layers becomes somewhat more complicated, and thin needle-like crystals appear on the walls of the reactor. [Translation of abstract]

SUB CODE: 20

Card 1/1 afs

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032520018-9"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032520018-9

L 02348-67 EWT(m)/EWP(t)/ETI IJP(c) JD

ACC NR: AR6025738 SOURCE CODE: UR/0058/66/000/004/A069/A069

AUTHOR: Stroitelev, S. A.; Maronchuk, I. Ye.; Sidorov, Yu. G.; Avdiyenko, K. I.

TITLE: On the relief of epitaxial germanium layers

SOURCE: Ref. zh. Fizika, Abs. 4A586

REF SOURCE: Sb. Simpozium. Protsessy sinteza i rosta kristallov i plenok poluprovodnik. materialov, 1965. Tezisy dokl. Novosibirsk, 1965, 38

TOPIC TAGS: germanium, epitaxial growing, semiconducting film, crystal growth

ABSTRACT: A study was made of the formation of the surface relief of epitaxial Ge layers as a function of the conditions of their growth by the iodide method in an open tube. The growth rate of (111), (100), (110), and other faces, as a function of the supersaturation, does not change uniformly. At the same layer orientation, different values of supersaturation on the surface of the layers correspond to different growth figures, the faces of which agree with the growth forms of the microcrystals produced near the substrates. Layers with plane relief of the (111) surface are obtained in the case when the crystallization conditions of Ge correspond to formation of germanium crystals of octahedral form. In all other cases, the relief of the surface becomes more complicated by formation of sharply-peaked or truncated pyramids. [Translation of abstract]

SUB CODE: 20

Card 1/1

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"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032520018-9

ACC NR: AR6030483 SOURCE CODE: UR/0275/66/000/006/B007/B007

AUTHOR: Stroitelev, S. A.; Maronchuk, I. Ye.; Sidorov, Yu. G.; Avdiyenko, K. I.

TITLE: Relief of Ge epitaxial layers

SOURCE: Ref. zh. Elektronika i yeye primeneniye, Abs. 6B46

REF SOURCE: Sb. Simpozium. Protsessy sinteza i rosta kristallov i plenok poluprovodnik. materialov, 1965. Tezisy dokl. Novosibirsk, 1965, 3Kh8 [sic]

TOPIC TAGS: germanium semiconductor, germanium refining, germanium single crystal

ABSTRACT: The shaping of relief of the surface of Ge epitaxial layers depending on their growing conditions by the iodide method in an open pipe was studied. The rate of growth (111), (100), (110), and other facets varies unequally depending on supersaturation. With the same layer orientation, different growth figures, whose faceting corresponds to the growth forms of near-backing microcrystals, correspond to different surface supersaturations. When Ge crystallization conditions correspond to the formation of octahedral forms, flat-relief (111) layers are produced. In all other cases, the surface relief is complicated by formation of acute-vertex or truncated pyramids. [Translation of abstract]

Card 1/1 SUB CODE: 20, 11 UDC: 621.315.592:548.552:546.289.548.28

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032520018-9"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032520018-9

ACC NR: AR6030488 SOURCE CODE: UR/0275/66/000/006/B012/B012

AUTHOR: Maronchuk, I. Ye.; Sidorov, Yu. G.

TITLE: GaAs-crystal gas-phase growing

SOURCE: Ref. zh. Elektronika i yeye primeneniye, Abs. 6B78

REF SOURCE: Sb. Simpozium. Protsessy sinteza i rosta kristallov i plenok poluprovodnik. materialov, 1965. Tezisy dokl. Novosibirsk, 1965, 20

TOPIC TAGS: gallium arsenide, ~~semiconductor~~, single crystal growing, semiconductor research

ABSTRACT: The results are reported of an investigation of the effect of vapor phase upon the rate of growth and faceting of GaAs crystals in the open iodide process. With $\frac{P_{GaJ}+P_{GaJ_3}}{nP_{As_n}}>1$ and small supersaturations, the (111)-facet grows at a lowest rate which ensures a smooth mirror-like surface of the epitaxial layers grown. At higher supersaturations, flexible dendritic ribbons with a well developed (111)-surface are formed. With K = 1, the epitaxial-layer relief becomes more complicated, and thin acicular crystals are formed on the reactor walls. I. M., Yu. S.
[Translation of abstract]

SUB CODE: ~~10,09~~ 20

Card 1/1 UDC: 621.315.592:548.552:546.19'681

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032520018-9"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032520018-9

41694

S/837/61/049/000/006/011
B102/B104

AUTHORS: Kot, M. V., and Maronchuk, Yu. Ye.

TITLE: Some electric properties of thin cadmium telluride films

SOURCE: Kishinev. Universitet. Uchenyye zapiski. v. 49, 1961, 78-85

TEXT: To arrive at the best conditions for producing films their electric, optical and photoelectric properties were determined. The films were produced by evaporating Cd and Te from tungsten and condensing onto cold or hot glass backings. Their physical properties depended greatly on the Cd-Te concentration ratio. Pure Cd and Te have the same conductivity in bulk and as a film whereas any mixture has a lower one, and the 50:50 concentration shows minimum conductivity. The type of conductivity depends both on concentration and on temperature. Hence the stoichiometric composition is p-type at room temperature and n-type above that. Since annealing is attended by an ordering process, annealing in vacuo irreversibly changes the conductivity. InSb sublimation tests carried out with a backing separated into stripes 4 mm wide showed that at 250°C the excess Cd is almost completely sublimated, and at 350°C the

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excess Te. Another series of experiments was made with InSb films from sublimation of InSb single crystals made by Bridgman's method. Pure polycrystals, too, were used for this purpose. The layers were furnished with ohmic contacts of aquadag or gold in order to measure $\sigma(T)$, $\sigma(d)$, the volt-ampere characteristics and the potential distributions. Results: Sublimated CdTe does not dissociate; when deposited on a base of 20°C its structure is unstable. Stability can be reached when the base is heated above 250°C; films deposited on a hot base are always p-type. The increase of σ when d is reduced from 0.5 to 0.2μ is attributed to sorption of air. Silver-doped CdTe films are p-type, indium-doped films are n-type. The InSb films produced had the same properties as the bulk material. The forbidden-band width, determined from $\sigma(T)$, was 1.45-1.5 ev. There are 5 figures.

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KOT, M.V.; MARONCHUK, Yu.Ye.

Optical properties of thin films of cadmium telluride. Uch. zap. Kish. un. 49:86-91 '61. (MIRA 15:7)
(Cadmium telluride--Optical properties)

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EWT(1)/EWG/EEC(b)-2--AFFTC/ASD/ESD-3--IJP(C)/GG
L 10018-63 S/0058/63/000/004/E067/E067
ACCESSION NR: AR3000378

59

SOURCE: RZh. Fizika, Abs. 4E450

AUTHOR: Kgt, M. V.; Moroshchak, Yu. Ye.

TITLE: Dependence of the electric properties of thin layers of mercury telluride on the thickness

CITED SOURCE: Tr. po fiz. poluprovodnikov. Kishinevsk. un-t, vyp. 1, 1962, 77-84

TOPIC TAGS: mercury telluride, thin layers, thickness dependence, electric properties

TRANSLATION: An investigation was made of the properties of HgTe layers made by two methods: 1) evaporation of the bulk specimen in vacuum, 2) evaporation of Te in Hg vapor. The results of the investigations of both types of layers coincide. All measurements were carried out with specimens having reproducible characteristics, this being attained by annealing the layer in vacuum at 100°C. Heating at a temperature higher than 100°C. leads to a sharp increase in the

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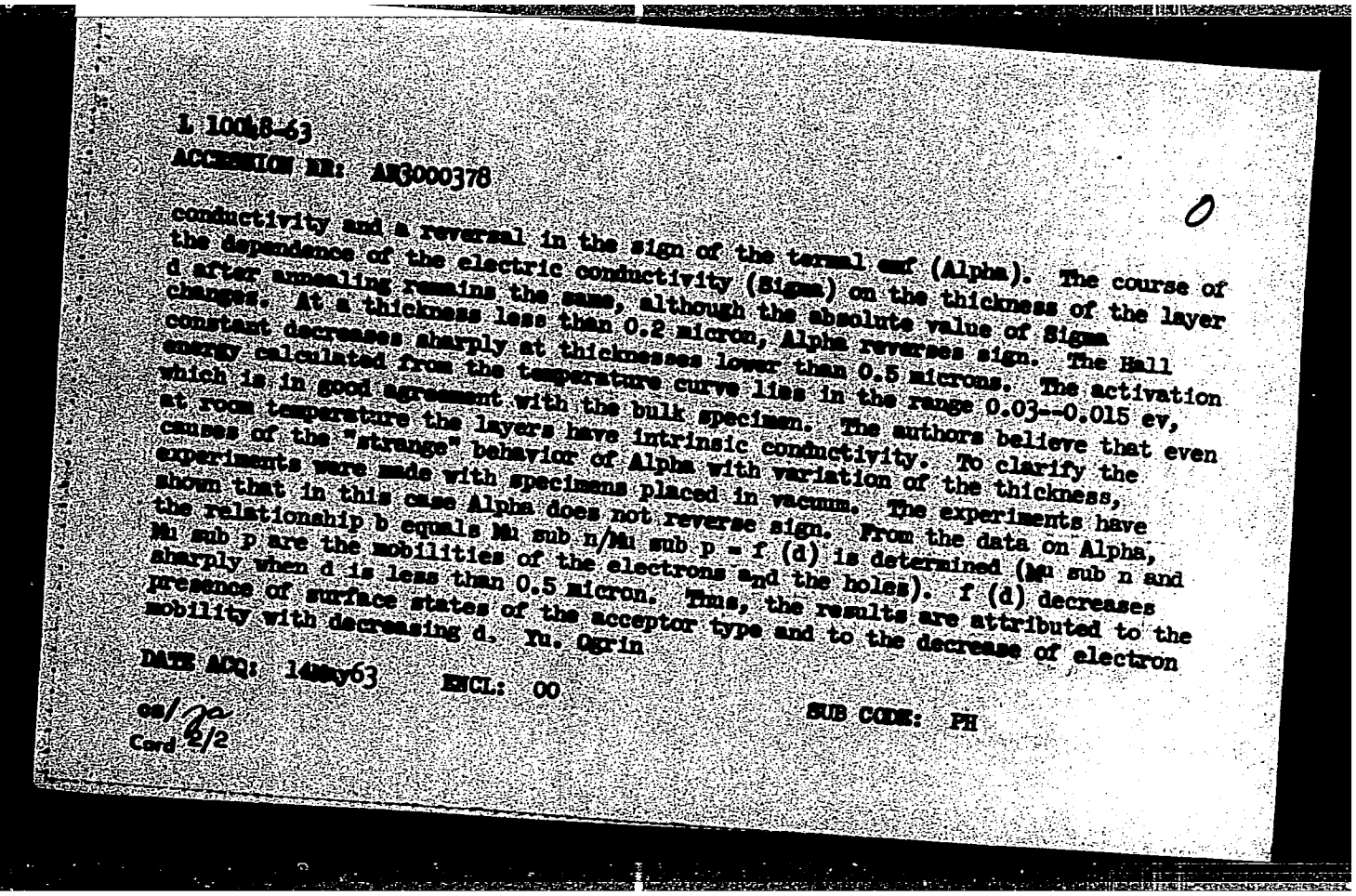

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ACCESSION NR: AR3000378

conductivity and a reversal in the sign of the termal emf (Alpha). The course of the dependence of the electric conductivity (Sigma) on the thickness of the layer d after annealing remains the same, although the absolute value of Sigma changes. At a thickness less than 0.2 micron, Alpha reverses sign. The Hall constant decreases sharply at thicknesses lower than 0.5 microns. The activation energy calculated from the temperature curve lies in the range 0.03--0.015 ev, which is in good agreement with the bulk specimen. The authors believe that even at room temperature the layers have intrinsic conductivity. To clarify the causes of the "strange" behavior of Alpha with variation of the thickness, experiments were made with specimens placed in vacuum. The experiments have shown that in this case Alpha does not reverse sign. From the data on Alpha, the relationship b equals Mu sub n/Mu sub p = f (d) is determined (Mu sub n and Mu sub p are the mobilities of the electrons and the holes). f (d) decreases sharply when d is less than 0.5 micron. Thus, the results are attributed to the presence of surface states of the acceptor type and to the decrease of electron mobility with decreasing d. Yu. Ogrin

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"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032520018-9

S/058/63/000/003/078/104
A059/A101

AUTHORS: Kot, N. V., Maronchuk, Yu. Ye.

TITLE: Photoelectric properties of thin layers of cadmium telluride

PERIODICAL: Referativnyy zhurnal, Fizika, no. 3, 1963, 78, abstract 3B545 ("Tr. po fiz. poluprovodnikov. Kishinvesk. un-t", 1962, no. 1, 85 - 91)

TEXT: CdTe layers prepared by vaporization of polycrystalline alloys and single crystals onto backings, heated to 250 - 300°C, in vacuum were shown to exhibit noticeable photoconductivity. The photoconductivity of the layers depends on thickness. When the thickness is reduced to less than 4 μ, it sharply decreases. In order to increase the photosensitivity of CdTe layers, they should be annealed in the air at 450 - 500°C for a short time. The photosensitivity of the layers can be increased by way of doping them with Cd and In impurities. Doping with Cd increases the multiplicity, and, with In, the magnitude of the specific photosensitivity. The photoelectric activation energy calculated from the spectral characteristics corresponds to 1.40 - 1.43 ev at room temperature.

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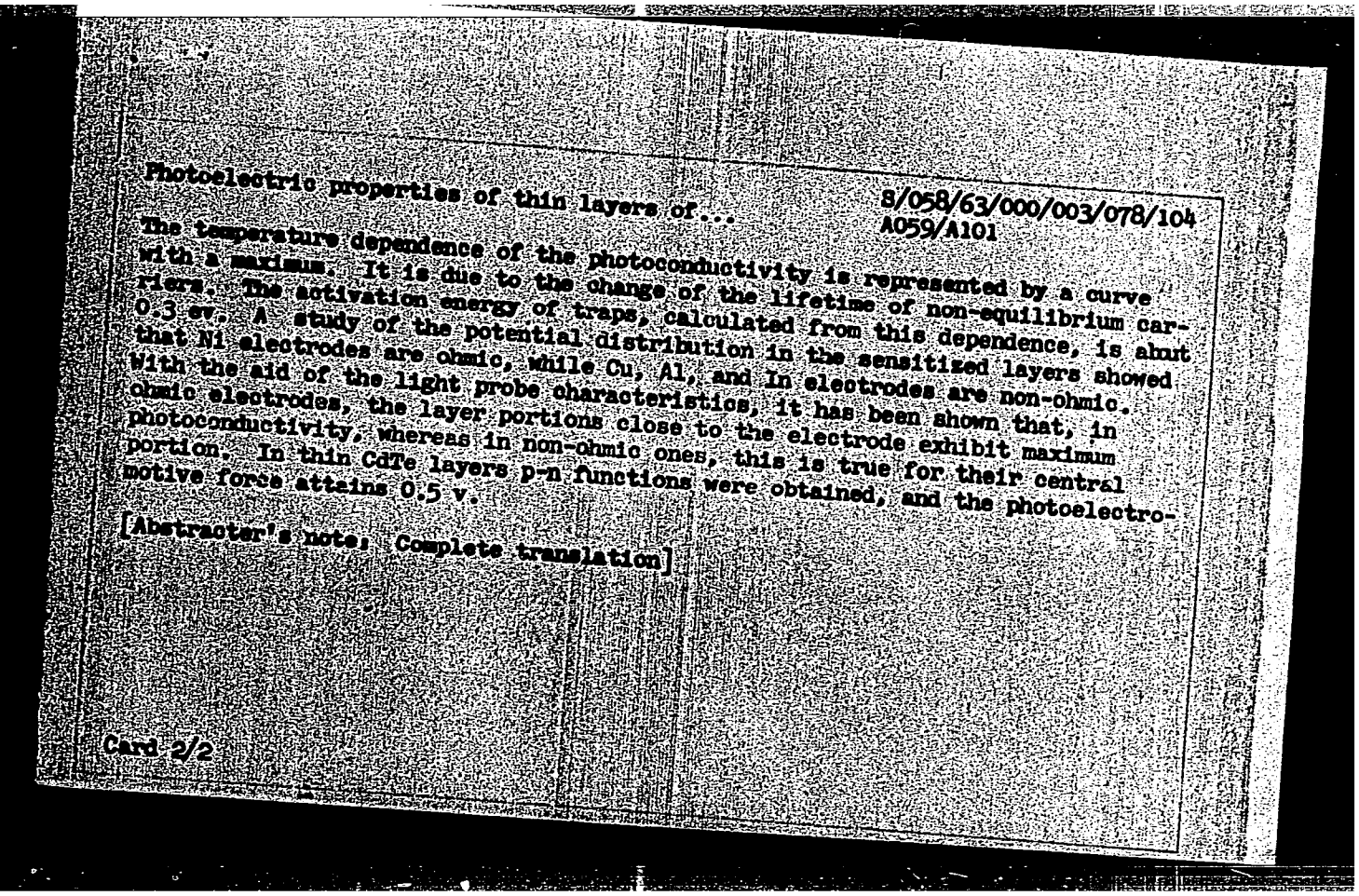

Photoelectric properties of thin layers of... S/058/63/000/003/078/104
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The temperature dependence of the photoconductivity is represented by a curve with a maximum. It is due to the change of the lifetime of non-equilibrium carriers. The activation energy of traps, calculated from this dependence, is about 0.3 ev. A study of the potential distribution in the sensitized layers showed that Ni electrodes are ohmic, while Cu, Al, and In electrodes are non-ohmic. With the aid of the light probe characteristics, it has been shown that, in ohmic electrodes, the layer portions close to the electrode exhibit maximum photoconductivity, whereas in non-ohmic ones, this is true for their central portion. In thin CdTe layers p-n functions were obtained, and the photoelectromotive force attains 0.5 v.

[Abstracter's note: Complete translation]

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L 10057-63
EWT(1)/BDS--AFFTC/ASD/ESD-3--00/IJP(C)
ACCESSION NR: AR3000380 S/0058/63/000/004/E067/E067

57

SOURCE: RZh. Fizika, Abs. 4E452

AUTHOR: Kot, M. V.; Maronchuk, Yu. Ye.

TITLE: Electric, optical, and photoelectric properties of the CdTe-HgTe system in thin layers

CITED SOURCE: Tr. po fiz. poluprovodnikov. Kishinevsk. un-t, vyp. 1, 1962, 131-141

TOPIC TAGS: CdTe-HgTe system, thin layers, electric properties, optical properties, photoelectric properties

TRANSLATION: Specimens were obtained by simultaneous evaporation of binary compounds in a vacuum of 10 sup -5 mm Hg on heated outgassed substrates with subsequent annealing; the thickness of the specimens was measured with an interference microscope. The electric conductivity Sigma was measured in the temperature interval from -180 to +100 or +200 degrees C in vacuum and in air, and the volt-amperse characteristics arelinear; Sigma decreases monotonically

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with increasing percentage content of CdTe, while the Hall constant increases and reaches 200 Cu cm./Coulomb. The mobility has a maximum for a system with molar percent CdTe and amounts to 4300 cm/v. sec; the thermal emf is negative for the portions of the system with 100 -- 65 molar percent CdTe and then reverses sign. The change in the conductivity under the influence of the air indicates that the layers containing more than 50 molar percent CdTe are of the p-type, while those with smaller content are of the n-type. The absorption edge shifts monotonically towards the long-wave region with increasing CdTe concentration, photoconductivity is noticeable for fresh specimens, the photosensitivity is maximal for layers with 20 -- 50 molar percent Hg Te, and the ratio of change in resistance upon illumination reached 10 (for 20% HgTe). The photosensitivity spectrum shifts toward longer wave lengths for large HgTe concentrations. The activation energies vary monotonically, but not linealy, this being attributed by the author either to the inhomogeneity of the specimens or to the unsimilar structure of the bands. L. Gudymenko

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S/181/62/004/006/024/051
B104/B112

AUTHORS: Kot, M. V., Tyrziu, V. G., Simashkevich, A. V., Maronchuk, Yu. Ye., and Mshenskiy, V. A.

TITLE: The dependence of the activation energy on the molar composition in thin layers of some $A^{II}B^{VI}$ - $A^{II}B^{VI}$ systems

PERIODICAL: Fizika tverdogo tela, v. 4, no. 6, 1962, 1535 - 1541

TEXT: Thin layers of the systems ZnSe-CdSe, ZnTe-CdTe, ZnSe-HgSe, CdSe-HgSe, and CdTe-HgTe were prepared by Vekshinskiy's method. The layers were sputtered onto cold and heated glass and mica backings and subsequently annealed in vacuo or air. The layers sputtered onto cold backings revealed an inhomogeneous structure. The activation energy was determined from the temperature dependence of electrical conductivity, and from the spectral dependence of photo-conductivity at room temperature. Under certain temperature conditions, layers could be obtained having continuously variable composition. The optical activation energy of the systems ZnTe-CdTe, ZnSe-HgSe, and CdTe-HgTe

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The dependence of....

is a linear function of the molar composition; that of the systems ZnSe-CdSe and CdSe-HgSe is not a linear, but a monotonic function of the molar composition. In the former case, one is dealing with solutions with one type of lattice, and in the latter with solutions with two types of lattice. The decrease in the optical activation energy of the systems is as follows: for the system ZnSe-CdSe from 2.6 ev (100% ZnSe) to 1.7 ev (100% CdSe); for ZnTe-CdTe from 2.1 to 1.4ev; for ZnSe-HgSe from 2.6 to 0.4 ev; and for CdTe-HgTe from 1.4 to less than 0.1 ev. There are 5 figures.

ASSOCIATION: Kishinevskiy gosudarstvennyy universitet (Kishinev State University)

SUBMITTED: January 27, 1962

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ACCESSION NR: AR3005138 S/0275/63/000/006/B010/B010

SOURCE: RZh. Elektronika i yeye primeneniye. Abs. 6B59

AUTHOR: Kot, M. V.; Maronchuk, Yu. Ye.

TITLE: Electrical, optical, and photoelectric properties of the CdTe-HgTe system in thin layers

CITED SOURCE: Tr. po fiz. poluprovodnikov. Kishinevsk. un-t., vy*p. 1, 1962, 131-141

TOPIC TAGS: semiconductor material, cadmium telluride, mercury telluride, Hall constant, thermal emf, Vekshinskiy method, electron mobility

TRANSLATION: The authors describe a technique for obtaining thin layers of the CdTe-HgTe system and their electrical (conductivity σ, Hall constant, and thermal e.m.f.) and optical (transmission, absorption, reflection) properties, as well as the photoconductivity σ_ϕ and voltage- and lux-amperage characteristics. It is supposed that the layers obtained by the Vekshinskiy method on dielectric supports heated to 100°C at a pressure of 10^{-5}mm Hg consist of a continuous series of

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of solid solutions. It is shown that the σ of the system layers decreases monotonically as the CdTe content increases. Layers containing 50% CdTe have p-type conductivity, and less than this amount -- n-type conductivity. As the CdTe content increases to 17% the mobility of the electrons in the system layers increases. Layers with an HgTe content of up to 35% have a considerable σ_ϕ with a maximum at 30-50% HgTe without special sensitization. The maxima of the spectral dependence of the σ_ϕ of the system layers lie in the region λ 0.6-0.9 micron. The activation energy computed from optical measurements for T_{con} changes monotonically with composition from 1.45 ev (CdTe) to 0.03 ev (HgTe). With increasing HgTe content in the system layers, the refractive index increases. It is supposed that the sorbed air which considerably affects the value of σ creates surface acceptor states. Bibliography with eight titles. V.K.

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L 3448-66 EWT(l)/EWT(m)/ETC/EWP(i)/EWG(m)/T/EWP(t)/EWP(b)/EWA(h) IJP(c)
RDW/JD/GS/AT

ACCESSION NR: AT5020490 UR/0000/64/000/000/0432/0445

AUTHORS: Kot, M. V.; Kas'yan, V. A.; Maronchuk, Yu. Ye.; Mahenskiy, V. A.; Simashkevich, A. V.

TITLE: The dependence of the electrical properties of thin layers of certain binary compounds upon thickness and upon the surrounding atmosphere

SOURCE: Mezhvuzovskaya nauchno-tekhnicheskaya konferentsiya po fizike poluprovodnikov (poverkhnostnyye i kontaktnyye yavleniya). Tomsk, 1962. Poverkhnostnyye i kontaktnyye yavleniya v poluprovodnikakh (Surface and contact phenomena in semiconductors). Tomsk, Izd-vo Tomskogo univ., 1964, 432-445

TOPIC TAGS: indium compound, mercury compound, cadmium compound, zinc compound, electric property, Hall constant, semiconductor, conductivity

ABSTRACT: The dependence of the conductivity, differential thermo-emf, and Hall constant upon thickness and the surrounding atmosphere was studied for thin layers of InSb, HgSe, HgTe, CdSe, ZnSe, and CdTe. The work was done to determine the effect of surface states on the electrical properties of semiconductors. Thin layers of the above compounds were prepared by vaporization of polycrystalline alloys or single crystals of these compounds, by the method of academician

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Vekshinskiy, and by vaporization of a mixture of the components from a single vaporizer (for InSb). The films represented polycrystalline layers with crystal dimensions of $\sim 10^{-5}$-10^{-4} cm. Examples of graphs of conductivity versus thickness and the effect of sorbed oxygen on conductivity are shown in Figs. 1 and 2 on the Enclosures. It was concluded that the dependence of electrical properties upon thickness for layers of InSb, HgSe, and HgTe was due to the dependence of effective mobility upon crystal size and the influence of surface states when thickness was reduced. For layers of CdSe, ZnSe, and CdTe, the dependence was due chiefly to the influence of surface states. Orig. art. has: 10 graphs, 1 table, and 14 formulas.

ASSOCIATION: none

SUBMITTED: 06Oct64 ENCL: 02 SUB CODE: SS

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ACCESSION NR: AT5020490

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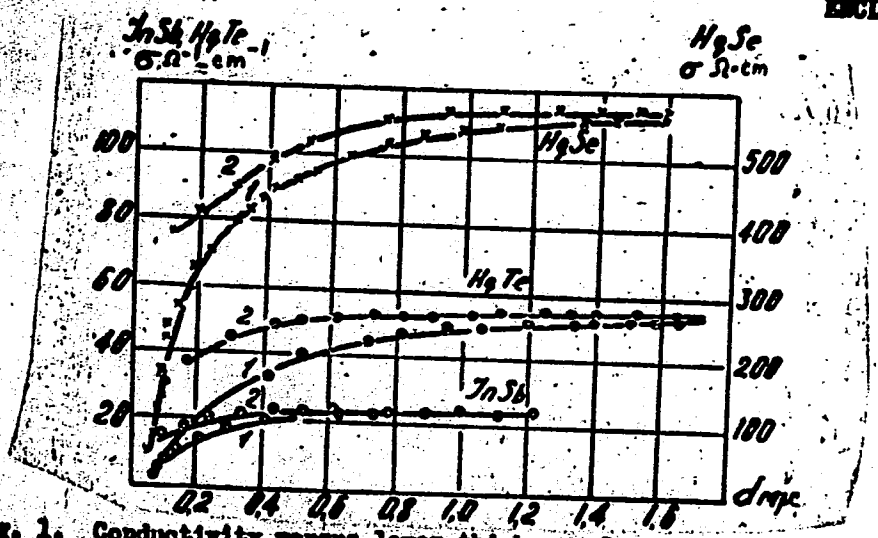

Fig. 1. Conductivity versus layer thickness for InSb, HgSe, and HgTe. 1—in oxygen atmosphere; 2—in vacuum of $\sim 10^{-5}$ mm Hg

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ACCESSION NR: AT5020490

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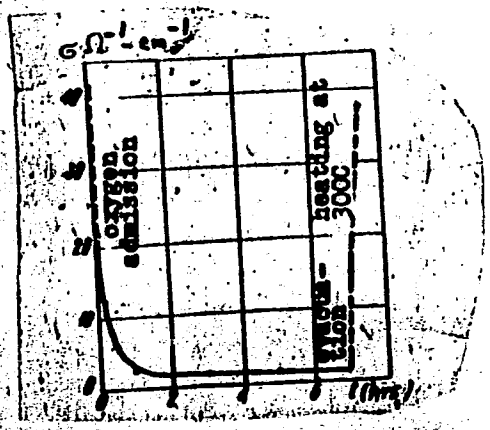

Fig. 2. Effect of sorbed oxygen on conductivity of CdSe layer

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L 9218-66 EWT(l)/EWT(m)/ETC/EWG(m)/T/EWP(t)/EWP(b) IJP(c) RDW/JD/JG/GG

ACC NR: AR6000121 SOURCE CODE: UR/0058/65/000/008/E046/E046

SOURCE: Ref. zh. Fizika, Abs. 8E343

AUTHORS: Maronchuk, Yu. Ya.; Krivorotov, Ye. A.; Sherstyakov, A. P.

ORG: none

TITLE: On the processes of formation of single-crystal films of cadmium and mercury telluride

CITED SOURCE: Sb. Vychisl. sistemy. Vyp. 15. Novosibirsk, 1965, 67-75

TOPIC TAGS: single crystal growing, mercury, cadmium, telluride, polycrystalline film, temperature dependence

TRANSLATION: The authors consider the processes of growing single-crystal layers of CdTe and HgTe, the influence of the composition of the vapor, of the temperature, and of the substrate parameters on the structure of the produced films. The presence of an excess of mercury vapor results in highly oriented single-crystal films of n-type with high carrier mobility (6--8 x 10^3 cm^2/v-sec). The films contained mutually oriented cubic (a = 6.429 Å) and hexagonal phases (a = 4.58 Å, c = 7.46 Å). At low mercury pressures and at slow evaporation, polycrystalline films of HgTe of p-type were grown with low carrier mobility (50--10 cm^2/v-sec) and very small crystalline grains. The thermodynamic calculations and the experimental results show that the single-crystal HgTe dissociates when heated in vacuum. A study was made of the influence of the orientation of the substrate material on the orientation of the CdTe

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films. The presence of cubic and hexagonal phases was also observed in CdTe layers; the fraction of the hexagonal phase decreased with increasing substrate temperature. It is proposed that the appearance of the hexagonal phase in the HgTe and CdTe films is due to the influence of the composition of the vapor on the structure of the grown layers. Yu. Dymshits.

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L 47335-66 EWT(m)/T/EWP(t)/ETI IJP(c) JD

ACC NR: AR6025743 SOURCE CODE: UR/0058/66/000/004/A071/A071

AUTHOR: Maronchuk, Yu. Ye.; Sherstyakov, A. P.

TITLE: On the process of formation of the hexagonal phase in epitaxial layers of cadmium telluride

SOURCE: Ref. zh. Fizika, Abs. 4A595

REF. SOURCE: Sb. Simpozium. Protsessy sinteza i rosta kristallov i plenok poluprovodnik. materialov, 1965. Tezisy dokl. Novosibirsk, 1965, 20-21

TOPIC TAGS: epitaxial growing, cadmium telluride, phase transition, electron diffraction analysis, temperature dependence, semiconducting film

ABSTRACT: A technology is described for obtaining epitaxial layers of CdTe on (100) cleavage surfaces of halogens and on textured layers(with (111) plane of CdTe perpendicular to the substrate) on amorphous substrates. Electron-diffraction investigations point to the presence of cubic and hexagonal phases. With increasing substrate temperature, the concentration of the hexagonal phase increases, reaches a maximum at 400C, and then decreases. The orientation of the layers on the amorphous substrate is maximal at 350C. The mechanism of formation of the hexagonal phase and of the texture in thin layers of CdTe is discussed. [Translation of abstract].

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EWP(1)/EWT(m)/EWT(t)/ETI IJP(c) JD/JG

ACC NR: AM6019912 SOURCE CODE: UR/0275/66/000/002/B009/B009

AUTHOR: Kot, M. V.; Kas'yan, V. A.; Maronchuk, Yu. Ye.

TITLE: Dependence of electrical properties of thin layers of certain binary compounds on thickness and on the surrounding atmosphere

SOURCE: Ref. zh. Elektronika i yeye primeneniye, Abs. 2B71

REF SOURCE: Sb. Poverkhnostn. i kontaktn. yavleniya v poluprovodnikakh. Tomsk, Tomskikh un-t, 1964, 432-445

TOPIC TAGS: electric conductivity, Hall coefficient, thermal electromotive force, binary alloy, vacuum chamber, sorption, electron trapping, electron mobility

ABSTRACT: The dependence of conductivity, the Hall coefficient, and the differential thermal electromotive force on the thickness of a polycrystalline layer of binary compounds was investigated. An increase in conductivity with increase in thickness up to 0.5 to 0.8 micron was observed in n-type compounds. p-type conductivity in CdTe fell sharply with an increase in film thickness to 0.6 micron, and then remained virtually unchanged. Letting air or oxygen into a vacuum chamber immediately after the layers are obtained results in a reduction in conductivity for n-type films, and to an increase for p-type films. The surrounding atmosphere also had its effect on the differential thermal electromotive force. The reverse changes

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ACC NR: AR6019912

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in conductivity indicate that the sorbate oxygen forms surface levels which are electron traps in the n-type layers, and which play the role of acceptors in the p-type layers. Dependence of electrical properties on thickness in layers with great electron mobility (InSB, HgSe, HgTe) is discussed. I. V. [Translation of abstract]

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"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032520018-9

ACC NR: AR6019914 SOURCE CODE: UR/0275/66/000/002/B018/B018

AUTHOR: Maronchuk, Yu. Ye.; Krivorotov, Ye. A.; Sheratynkov, A. P.

TITLE: Processes involved in the formation of single crystal films of cadmium and mercury telluride

SOURCE: Ref. zh. Elektronika i yeye primeneniye, Abs. 2B132

REF SOURCE: Sb. Vychisl. sistemy. Vyp. 15. Novosibirsk, 1965, 67-75

TOPIC TAGS: cadmium telluride, mercury telluride compound, surface film, single crystal growing

ABSTRACT: The processes involved in growing single crystal layers of CdTe and HgTe, the effect of vapor composition, temperature, and the parameters for the base on the structure of the films formed are reviewed. When there is an excess of mercury vapor what is obtained on the base is a highly oriented single crystal n-type film with a highly mobile carrier (6 to 8 x 10^3 cm^2/volt-second). Mutually oriented cubic (a = 6.429A) and hexagonal phases (a = 4.58A, c = 7.46A) were present in the films. At low mercury pressures and with slow evaporation polycrystalline p-type HgTe films with carriers with little mobility (50 to 10 cm^2/volt-second) and very small crystalline grains were grown. The thermodynamic calculation was made, and the experimental results showed that single crystals of HgTe disassociate upon

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ACC NR: AR6019914

being heated in a vacuum. The effect of the orientation and of the substance of which the base is made on orientation of the CdTe film was studied. The percentage of the hexagonal phases fell with reduction in base temperature. It is assumed that the hexagonal phase phenomenon in the HgTe and CdTe films is the result of the effect of the vapor composition on the structure of the layers grown. Yu. D. [Translation of abstract]

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"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032520018-9

ACC NR: AR6030495 SOURCE CODE: UR/0275/66/000/006/B014/B015

AUTHOR: Maronchuk, Yu. Ye; Sherstyakov, A. P.

TITLE: Formation of hexagonal phase in CdTe epitaxial layers

SOURCE: Ref. zh. Elektronika i yeye primeneniye, Abs. 6B97

REF SOURCE: Sb. Simpozium. Protsessy sinteza i rosta kristallov i plenok poluprovodnik. materialov, 1965. Tezisy dokl. Novosibirsk, 1965, 20-21

TOPIC TAGS: crystal growing, semiconductor film, epitaxial growing

ABSTRACT: The production of CdTe epitaxial layers on (100)-spalls of salts and texturized layers (the (111)-plane of CdTe is perpendicular to the backing) on amorphous backings is described. Electron-diffraction studies revealed the presence of cubic and hexagonal phases. The hexagonal-phase concentration increases with the backing temperature, reaches maximum at 400C, and then falls off. At 350C, maximum orientation of layers on an amorphous backing occurs. The mechanism of formation of the hexagonal phase and texture in thin CdTe layers is discussed. The effect of the hexagonal phase and texture on the electrophysical properties of the layers is considered. Ye. M., A. Sh. [Translation of abstract]

SUB CODE: 11, 20

Card 1/1 UDC: 621.315.592.548.28:546.48'24

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"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032520018-9

KATSNEL'SON, B.D.; MARONE, I.Ya.

Rate of motion of carbon particles [with summary in English]. Inzh.-fiz. zhur. 4 no.3:123-126 Mr '61. (MIRA 14:8

1. TSentral'nyy kotloturbinnyy institut im. I.I. Polzunova, g. Leningrad.
(Coal, Pulverized)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032520018-9"

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KATSNEL'SON, B.D., kand.tekhn.nauk; MARONE, I.Ya., inzh.

Ignition and combustion of coal dust. Teploenergetika 8 no.1: 30-33 Ja '61. (MIRA 14:4)

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(Furnaces) (Coal, Pulverized)

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KATSNEL'SON, B.D., kand.tekhn.nauk; MARONE, I.Ya., inzh.

Determination of total kinetic characteristics of the combustion of pulverized coal. Teploenergetika 10 no.1:26-28 Ja '63. (MIRA 16:1)

1. TSentral'nyy kotloturbinnyy institut.
(Coal, Pulverized--Thermal properties)

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BOBRYAKOV, G.I.; MARONOVA, V.D.

Sodium silicate cores with a hardened working area. Lit. proizv. no.8:6-8 Ag '62. (MIRA 15:11)
(Coremaking)

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AFANASYUK, I.N.; MARONOVA, V.O.

Mechanized sand blowing of cores. Mashinostroitel' no.9:11 S '60. (MIRA 13:9)
(Coremaking)

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[illegible], D.

A proposition for the classification of cars.

[illegible] (STATISTICA [illegible]) (Bucur[illegible], Romania) Vol. [illegible], no. 1[illegible], Nov. 1[illegible]

DD: Monthly Index of East European Accessions (EEAI) [illegible] Vol. [illegible], No. [illegible]

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PHASE I BOOK EXPLOITATION SOV/5788

Cluj, Transylvania. Institutul Politehnic

Lucrări științifice (Scientific Works) Cluj, Intreprinderea Poligrafica, 1959. 637 p. Errata slip inserted. No. of copies printed not given. No contributors mentioned.

PURPOSE: This book is intended for mathematicians, physicists, chemists, and civil and mechanical engineers.

COVERAGE: The book consists of 59 papers by Rumanian specialists on problems in science and technology, particularly mathematics, physics, chemistry, metallurgy, civil and mechanical engineering. Summaries in Russian and French or German are given at the end of each article. Some of the articles are accompanied by references. No personalities are mentioned. At the back of the book there are 23 references, all Rumanian.

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"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032520018-9

RUM/9-11-4-7/43

25(2)
AUTHORS: Maros, D., Lecturer-Engineer, & Juncu, O., Engineer

TITLE: Concurrent Orthogonal Gears With Cylindrical Pinions Having Straight Involute Teeth

PERIODICAL: Metalurgia si Constructia de Masini, 1959, Vol 11, Nr 4, pp 291-297 (RUMANIA)

ABSTRACT: The author describes a gear which he affirms can successfully replace bevel gears. The gear described has a series of advantages as compared with bevel gears, like no need for special manufacturing machines, lack of delicate adjustment, easier assembly conditions due to the contact in a single point. The cylindrical pinion allows an axial movement of decoupling or even a reversed motion. The processing is said to be less expensive. The disadvantages are: limitation of the tooth width by the conditions of cutting, therefore limitation of the resistance to rupture and wear. The utilization is recommended where no great power transmission is required, like in jigs, machines and light transmission parts. The formation of the gear is explained by

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Concurrent Orthogonal Gears With Cylindrical Pinion Having Straight Involute Teeth

general kinematic considerations. It is imagined that a loaded pinion having involute teeth is meshed with a wax disc. The rotation axes of the pinion and of the disc are concurrent and orthogonal. The pinion impresses a conjugated system of teeth into the disk-wheel, at a constant ratio of speed. The teeth generated have no involute section at any point. The authors give a detailed study of the machining of the disk-wheel and a mathematical description of the kinematics of the gear. There are 7 diagrams, graphs and references, 1 of which is Soviet, ... Americ... 1 ...

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"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032520018-9

MAROS, D.; ROHONYI, V.

Kinematics of Spriromatic, the spiral-toothed pinion gear-cutting machine manufactured by the Oerlikon Factories. p.373

EPITOANYAG. (Epitoanyogiperi Tudomanyos Egyesulet)
Budapest, Hungary
Vol. 11, no.10, Oct. 1959

Monthly List of East European Accessions (EEAI) LC., Vol. 8, no.12, Dec. 1959
Uncl.

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MAROS, Dezideriu, ing.; CSULAK, Acatiu, ing.; LEWY, Ladislau, ing.

Profiling the worm cutters for the machining of ratchet wheels by rolling method. Metalurgia constr mas 13 no.10:880-884 O '61.

(Metal-cutting tools)
(Rolling(Metalwork)

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"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032520018-9

R/006/62/013/006/005/008
A065/A126

AUTHORS: Chişu, A., Maroş, D., Albu, T., Hulpe, G., Mateişanu, D., Daly, A., Szabo, A.

TITLE: Contributions to the investigation of the wear of gears by means of radioactive isotopes

PERIODICAL: Studii şi cercetări de mecanică aplicată, v. 13, no. 6, 1962, 1,549 - 1,555

TEXT: A Co^{60} bolt, 3 mm long and 1 mm in diameter, was introduced into the tooth-face of a gear of globular pearlite cast iron, while the gear was then subjected to a long-period test in a universal gear testing machine provided with a closed circuit lubrication and a Geiger-Müller counter. The radioactive particles, retained together with the wear dust by the oil filter, were detected by the Geiger-Müller counter, whereas the impulses were counted in 1/2-hour intervals. The qualitative wear curves, traced on the basis of this method, show the evolution of the wear depending on time and load. Presented are then the calibration process used for the qualitative estimation of the wear, as well as the

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calculation of the wear of the tested gear. The precision of these measurements is limited by the statistic character of the radioactive disintegration. In the case of the conducted experiments, the statistic error varied between ± 2% and ± 5%. These preliminary experiments compiled in a table present the result of the wear test, depending on time and load. The tests conducted by the Institutul politehnic (Polytechnical Institute) in Cluj, the Laboratorul de radioizotopi, Institutul de fizică atomică (Laboratory of Radioisotopes, Institute of Nuclear Physics) in Cluj, and the Uzinele "1 Mai" ("1 Mai" Plant) in Ploieşti, will be continued. There are 4 figures.

ASSOCIATIONS: Institutul politehnic (Polytechnical Institute) in Cluj (Chişu, Maroş, Albu, Hulpe, Mateişanu, and Daly); Institutul de fizică atomică (Institute of Nuclear Physics) in Cluj (Szabo)

SUBMITTED: June 16, 1962

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CHISU, A.; MAROS, D.; ALBU, T.; HULPE, G.; MATIESANU, D.; DALY, A.; VERES, A.; SZABO, A.

Determining the wear and tear on cogwheels by radioactive isotopes. Bul stiint polit Cluj no.5:217-223 '62.

1. Institutul de fizica atomica Cluj (for Szabo).

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